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Procedia Economics and Finance 5 (2013) 241 – 250

Procedia Economics and Finance

www.elsevier.com/locate/procedia

International Conference on Applied Economics (ICOAE) 2013

The effect of the early entrance to job market on the health status of Brazilians in 2008: a robustness econometric test

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Abstract

The early entrance to the job market has, among other consequences, a negative effect on the health status of the individual. In 2008, nearly a sixth of the Brazilian population claimed to have started working before the age of 10 and over a third reported to have started working between 10 and 15 years old. This paper aims to investigate the effect of early entrance to the job market on the current health status of the individual. The database provided by the National Survey by Household Sampling (PNAD) for 2008 was used to reach the objective of this paper. The analysis was conducted at national extent using *Ordered Logit* method and *IV Probit*. It was evident that delaying entrance to the job market impacts positively on the current state of health. Moreover, it was found that the educational level and personal income increase the likelihood of the individual presenting a better state of health.

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1. Introduction

According to the International Labor Organization (OIT, 2012), 215 million children work at present, of which about 50% act in derogatory activities. The early entrance of the child to the labor market coerced either by the family or not, prevents them from attending school or, even, from receiving some kind of care (OIT, 2012). Child labor ravages all the continents, including the European one. In Latin America, a few studies which investigate the causes of child labor as well as its consequences, mainly for Brazil, are

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Selection and/or peer-review under responsibility of the Organising Committee of ICOAE 2013
doi:10.1016/S2212-5671(13)00030-0

highlighted.

In Brazil, in 2008, 13 % of the population admitted to have begun to work before the 10 years old, which makes worrying the impact of child labor upon the future of those children and consequently upon the process of the economic development of the country (IBGE, 2008). In this sense, Kassouf et al (2001) and Nicolella et al. (2008) claim that child labor inhibits the development of the child and, afterwards, of the grown-up individual, owing to, among other consequences, the impossibility of attending school. For Vietnam, for instance, Beegle et al (2009) have found evidence that child labor negatively impacts on school performance.

Although, a great part of the works does not stress the effect of the early entrance to the job market upon health, the different ages in which a child goes into the job market, possess distinct impacts on the health status of the adult person. In other words, it is expected that children who began to work before the 10 years old are more harmed in relation to the ones who enter between 10 and 15 years, for example. In Brazil, in 2008, 39% of the population admitted to have gone into the job market between 10 and 15 years old (IBGE, 2008).

The regional matter is also very important in the surveying of the relationship between child labor and health status, since in regions, as the Brazilian Northeast, the percent of individuals who claimed to have entered the job market before the 10 years old is of 16% (IBGE, 2008). In the Central-Western region, about 15% of the population claimed to have begun in the job market before the 10 years, while in the Southeast region, more developed economically – mainly as far as the industry is concerned – about 10% so stated. In the other regions, North and South, that percent is intermediary, respectively, 13% and 14%. It is advisable to highlight that other factors are also unequal, such as education, income and race and gender question.

Therefore, given that context, the present work intends to investigate the relationship between the individual's age of entrance to the job market and his current health status. Strictly speaking, it aims to survey from the construction of age ranges, the effect of the delay upon the age of entrance to the job market on the health status. Besides that, this work aims to test for robustness of methodological approach used in the latest work – *Ordered Logit.* The *Instrumental Variable Probit* was used to achieve that objective.

In addition to that piece of information, this work counts, forthwith, with the literature review which is concerned with this theme. Afterwards, both the methodology and the main results obtained are presented. At last, the final remarks are presented.

2. GENERAL OVERVIEW OF THE LITERATURE ABOUT THE IMPACT OF CHILD LABOR ON HEALTH STATUS.

The literature which is concerned with the theme, although scarce, enables us to characterize in a concrete form, the research theme. Some works stand out for the theoretical discussion and others for the empirical application.

The investigation about the health status of the grown-up individual or even of the child is not recent[†], though; its association with child labor is so. A few pioneering works made use of theoretical models to estimate the health demand. Grossman (1972, 1975) and Wagstaff (1986, 1993) stood out for their pioneering activity in the construction and debate of such models. In Brazil, recently, Oliveira and Gonçalves (2012) investigated, specifically, the health demand from models for countable data in which the variable to be explained was the number of consultations. Although, the theoretical model aims to survey the health status, does not embrace the effect of the early entry in the job market, central aim of the study.

Some studies prioritize to identify the impact of child labor upon other variables such as personal performance. Among those works, the ones proposed by Kassouf and Santos stand out (2010), who investigate the impact of child labor upon the future performances of the Brazilians and by Haas et al. (2011),

[†] For a short literature review about the theme, see Dorman (2008).

who seeks to investigate [‡] the impact of the child's health on the performances of the same ones when they become adults (between 25 and 50 years) for the 1990's. Furthermore, Fonseca (2011) turns his attention to the theoretical aspects of the relationship between health and employment.

In the international literature, there are two works which discuss the research trouble investigated in this work for Vietnam – O'Donnell et al (2005) and Beegle et al (2009). The first work is intended to investigate the impact of child labor on the health status in the short and long term, controlling for other control variables as education. The authors utilized the *Vietnam Living Standards Survey* to perform their surveys. Among the methods used; the Two Stage Least Squares (2SLS), the *Seemingly Unrelated Regression* (SUR) and Bivariate *Probit* stand out. O'Donnell et al (2005) measured the health from the following variables: in the short term, body mass index; and, in the long term, recurrent diseases. The authors highlighted a weak relationship, in the short term, between the child labor and health, found when utilizing the 2SLS method in differences, and robust in the long term.

Beegle et al (2009), on the other hand, making use of the same data base, found no negative evidence of child labor upon the health status. Health was measured in two manners, diseases and number of sick days and in none of them, the negative effect upon the child labor was found.

Giuffrida et al (2005) sought to investigate the correlation between poverty ADN health in Brazil as well as the relationship between health and child labor. In addition, the authors surveyed the determinants of the access and utilization of the medical assistance as well of the income. The authors made use of the data base of the Instituto Brasileiro de Geografia e Estatística (IBGE), (Brazilian Institute of Geography and Statistics), Pesquisa Nacional por Amostra de Domicílio (PNAD) (National Household Survey) of the year of 1998 and innovated as regards the other works for using a distinct methodology – *Structural Equation Models – SEM*.

In the results found by Giuffrida et al (2005), the positive impact of education, of income, of the public availability of water and of the presence of sewerage in the home on the health status. The authors also found that there is a positive relationship between dwelling the urban area and utilization of the medical assistance. Giuffrida et al (2005) complemented the survey in stating that this result is in accordance with the literature and agree with the expected one, for in the urban areas there is increased possibility of access, since the availability is greater. Child labor, on the other hand, negatively influenced health status, as expected.

Kassouf et al. (2001) investigated the impact of the entrance of children to the job market on the health status when adult in Brazil. The authors utilized the data of the IBGE Standard of Living Survey (Pesquisa de Padrão de Vida do IBGE) of 1996-1997. Among the chief results, one can highlight that the early entrance toe job market is associated with poor levels of schooling and income. In addition, the percent of individuals who possess an inadequate health status is directly associated with the ones who began to work before the 15 years of age. Besides, they call the attention to the fact that the impact of the early entrance to the job market may not be realized when the children become youngsters or young adults, but in reality, afterwards.

Nicolella et al (2008) address that point in investigating the impact of child labor upon the health of the children in the farm sector. This work stands out in relation to the others for making use of the cohort techniques to join together these two data bases of the PNAD of IBGE - of 1998 and 2003. In short, the authors aimed to identify the children who were in the age range of 5 to15 years in 1998 and of 10 to 20 years in 2003.

The work by Nicolella et al (2008) proposes to correct the endogeneity problem existing among the variables health status and if the child worked in the farm sector. For that purpose, the authors made use of the *Probit* method with instrumental variables and found that the sector in which the child works does not possess significant impact upon his health status, but, when surveyed the children of the urban area, child labor decreased the probability for them to present a very good health status by 0.128 percent point.

In short, the international literature, mainly as far as Brazil is concerned, is still incipient, with few

[‡] The data utilized were obtained from different sources, as *Social Security Administration*.

studies with the purpose of relating child labor with health. Therefore, this work seeks to add to that literature the discussion between the early entrance to job market and the current health of the grown-up.

3. METHODOLOGICAL ASPECTS

The problem of research here suggested – effect of the entrance of children to job market upon the current health status – requires the use of methods which consider the binary or categorical dependent variable, since health status is hierarchized from very bad to very good[§]. Therefore, the method which best fits this sort of variable, utilized in this work, Ordered *Logit*[**].

The Ordered *Logit* seeks to estimate the probabilities related with the greatest category, in this case, the fifth referent to the health status very good. Furthermore, it was intended to verify the statistical significance of the variables separately as well jointly.

As said in the previous sections, many works that analyzed this objective used other methodologies. Therefore, this work opts for using *Instrumental Variable Probit* to correct the endogeneity problem and test for robustness of *Ordered Logit.* To read more about that methodology, see Cameron and Trivedi (2005) and Greene (2008). The endogeneity problem founded here is between health and person income, because of simultaneity relation between both. It is convenient explicit that for *IV Probit* methodology, the independent variable used was a dummy indicating good health (dummy equal to 1) and bad health (dummy equal to 0).

3.1. Variables

The data utilized in this work are coming from PNAD for the year of 2008. It was chosen to utilize the year of 2008 for presenting, in a direct form, in the questionnaire, a question about the individual's health status. It is worth highlighting that such a report is done by the individual interviewed, which can generate measure problems, given the subjective character of the question and/or of the answer.

The dependent variable – health status– is reported in five categories: very bad, bad, regular, good and very good. Since the method utilized is the Ordered *Logit*, the original categories were kept. The early entrance to the job market was measured from the creation of age ranges which point to the age in which the individual began to work. Two variables with distinct age ranges with the objective of captivate the unique impact upon the health status were constructed.

The first range consists in the age range between 4 and 9 years, while the second is concerned with the age range between 10 and 15 years. Although, one expects that both affect negatively the individual's health status, it is presupposed that the first age range degrades more health than the second one, since the chances for the child to study and develop professionally in the future decrease. The effect of that variable called, in most times, child labor, is confirmed by the literature as seen previously.

The variables selected for the survey of the determination of the health status were observed in works with similar objectives. The previous section presents, in a short manner, those works. However, it is noteworthy that Giuffrida et al (2005) point to the relevance of surveying the association between health and age, education, race, among other factors. And, complementarily, O'Donnell et al (2005) point to the gender as a determining factor in the resulting level of health. In addition to those variables, it was sought to capture other important effects such as the area in which the individual lives: rural or urban.

With the objective of measuring the impact of the age upon the health status, it was chosen for inserting a variable *age* into the model, corresponding to the current age of the individual. Age possesses a significant and negative impact upon health status, mainly, when the individual is at advanced age. That probably, results

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[§] The categorizing is given by: (1) very bad, (2) bad, (3) regular, (4) good and (5) very good.

[**] For better understanding see Cameron and Trivedi (2005).

from the possibility of occurring chronic diseases.

Nicolella et al. (2008), as already seen, discuss the health status, as a manner of accumulating human capital. The authors argue that the fact of a child not to work raises the probability that she possesses a more promising future, with higher levels of schooling and consequently of income. Starting from that presupposed, inserting more two control variables was chosen: years of study and personal income. The first one was constructed from the variable made available by the PNAD, *years of study*, and it is expected that it has a positive impact upon the health status. The second one was collected in the same source and as well as the previous one, a positive impact is expected.

In fact, the relationship of the variables years of study and *personal income with the health status is* founded on the same foundations. That means that both the variables are correlated so that the greater the level of income more years of study possess the integrants of the home and vice-versa. It is expected that a higher level of income enables a more adequate feeding, greater access to medical and hospital services and a greater level of schooling. Besides, education also raises the income. So, it is expected that a higher level of income as well as of schooling has as a consequence better levels of health. It is realized, in that way, that there is a relationship of endogeneity between the level of income and schooling, but it is supposed that this relationship does not affect the estimates.

At last, dummies variables which represent the gender, race and the fact of an individual being or not in the urban area, were inserted. The objective in that case is controlling possible problems of omission of variables. The variable of gender takes over the value equal to 1 when is of the male gender. It is expected that being of the male gender has a positive impact upon the level of health, given the positive association with higher levels of income and consequently better levels of health.

The variable race takes over the value equal to 1 when the individual is negro and has as an objective to captivate indirectly the racial differentiation in the income and educational level which impact on the individual's health status. Negative association between being a negro and the health status is expected, since, in a lot of works, the racial prejudice is stressed.

The variable urban takes over value equal to 1 for individuals situated in the urban area. The objective is captivate the different health statuses prevailing between the urban and rural areas, grounded on a number of aspects, such as the health service offer as well as the income and schooling levels.

4. RESULTS AND DISCUSSION

4.1. Descriptive Statistics[††]

The economic evolution taken place in Brazil from the 1970s presented repercussions in the job market. Such repercussions are characterized by a delay of the entrance of the young to job market (read children). In fact, such a happening contributes toward the economic progress, for in most times, the young who goes late into job market possess better opportunities, likely due to the greater probability of studying.

Figure 1 represents such a behavior. When only the age range of 4 to 9 years is surveyed by comparing the current age ranges of 15 to 25 years and over 59 years, it is realized that the percent of entrance of children to job market is quite smaller. In reality, those values fall from 32% of the sample to 5.8% when compared with ranges of more than 59 years with that of 15 to 25 years, that is, a significant change. When surveyed the range of persons who enter job market over 14 years, opposite behavior is realized: 62% of the population present in the rage of 15 to 25 years began working after the 14 years old, while for the range of over 59 years, that percent is of 23%.

[††] That subsection utilizes relationships between the variables constructed from the complex sample of the data of PNAD. Tests which attested the relationship among the variables as the Wald test were carried out.

		Age range who began working		
		4-9 years	*10-14 years*	*+ 14 years*
Age Range	*15-25 years*	0.0585	0.3192	0.6223
	26-40 years	0.1002	0.3972	0.5027
	41-59 years	0.1855	0.4307	0.3838
	+ 59 years	0.3239	0.4479	0.2281
	Total	0.1323	0.3924	0.4752

Figure 1 – Relationship between the age range who began working and the current age.
Source: Results of the research.

The age range in which one begins working, as argued previously, impact negatively on the individual's current health status. The survey of the relationship between the health status and the age ranges (Figure 2) consolidate that presupposition. About 56% of the individuals who stated to have very good health status began to work when they were over 14 years old, while only 8.9% began working before the 10 years. Instead, 35% who began working before the 10 years stated to have a very bad health status, whereas only 23% began after the 14 years.

		Age range who they began working		
		4-9 years	*10-14 years*	*+ 14 years*
Current Health Status	*Very bad*	0.347	0.4208	0.2322
	Bad	0.3048	0.4506	0.2446
	Regular	0.2152	0.4509	0.3339
	Good	0.1095	0.3854	0.5051
	Very Good	0.0895	0.348	0.5625
	Total	0.1323	0.3924	0.4752

Figure 2 – Relationship between the age range who they began working and health status.
Source: Results of the research.

It is suitable also to stress that the early entrance to job market harms the school trajectory of the child/teenager. Among the individuals (teenagers) who have over 13 years' study, 74% of those began working when they were over 14 years, while fewer than 4% began working when they were under 10 years (IBGE, 2008). The survey of the association among the variables health and education with the entrance age to job market corroborates the importance of the delay of that entrance, since that increases the chances of having better education level and health status.

		Health status				
		Very bad	*Bad*	*Regular*	*Good*	*Very good*
Income range	*Até a R$ 415*	0.0063	0.0362	0.2468	0.5446	0.1661
	R$ 415-R$1245	0.0038	0.0205	0.1872	0.5788	0.2097
	R$1245-R$3735	0.0022	0.0119	0.1401	0.5599	0.2859
	>R$3735	0.0014	0.0064	0.103	0.5304	0.3588
	Total	0.0044	0.0247	0.2001	0.5612	0.2095

Figure 3 – Relationship between the health level and the income range.
Source: Results of the research.

In addition, the association between the income level and health status also deserves greater prominence, since a positive association between these variables is expected. That relationship (figure 3) is stood out in some works, as Nicolella et al (2008). To construct that survey, it was chosen to present income ranges

constituted from multiples of the minimum wage of the year in issue- 2008. As the income level (ranges) increases, the percent of individuals who possesses a health status considered very good rises. That shows clearly a positive association between income level and health status.

It is still worth pointing out that the regional disparities determine, in some associations, to some extent, those associations. In Brazil, the education level, in terms of regional discrepancies, as well as the object of research of that study- the early entrance to job market, stand out. The survey which associates years of study and the region in which the individual dwells is founded on historical factors, which have established such regional discrepancies.

Empirically, the North and Northeast regions concentrate a great part of their population in the first age range, that is, up to 4 years of study. In fact, in the North region, 39% of the samples have up to 4 years of study, while in the Southeast region, only 22%. On the other hand, in the North region, only 7% of the sample have more than 14 years of study, whereas in the Southeast and South region, about 14%.

In addition, the association between age of entrance to job market and the regions in which the individual lives presents results similar to the previous ones. In the North region, 16% of the sample entered job market before the 10 years old, while in the Southeast region, that percent is of about 10%. The opposite behavior, though, expected, is found in surveying the individuals who began working when they were more than 14 years old. In the North region, 42% went late into job market, while in the Southeast region, 53% did.

As well as the regional disparity, the racial and gender differentiation, many a time, persists in the country and also impacts negatively on the current health status of the grown-up. Although, the difference is small, less than 5%, the percent of negroes who declare to have at least a good health status is lower than the others. In relation to the gender, similar behavior is highlighted. In that sense, 74% of the females declare to possess, at least, a good health status, while 79% of the males do so.

On the other hand, one cannot say the same of the distinction between the urban and rural areas. While in the rural area, 67.7% of the individuals present at least a good health status, in the urban area, the values is higher - 79%.

Therefore, in general, the descriptive statistics demonstrate a close relationship between the health status of an individual and variables such as age, age at which he began to work, income and the region in which he resides.

4.2. Econometric Results

The model was estimated at the nationwide, since the number of observations is high, which characterizes a good representation of the sample. It is stressed that it was chose to consider a complex sample. The econometric[‡‡] model presented a good adjustment[§§], as can be observed in the coherence of the estimated coefficients. The tests indicated that the variable health status is liable to be subdivided into five categories. In addition, the comparison among the probabilities estimated for each category and the percents of them in the samples enables to survey the model's adjustment. In general, the difference between these was inferior to 0.02 (or 2%), indicating, therefore, a good adjustment. The results found are corroborated by the literature. The evidence stands out that the early entrance to job market affects both negatively and significantly the health status of the grown-up. Kassouf et al. (2001) also found that relationship for Brazil. Beegle et al (2009) did not find that statistically significant relationship, while O'Donnell et al (2005) found a negative and significant relationship between child labor and health. The other results, when surveyed by the literature, also presented similar relationships, although distinct magnitudes.

In general, both methods present similar results. The only variable not significant upon *Ordered Logit*,

[‡‡] It was no presented in the work, but for references, please send an e-mail: fsilva.f@hotmail.com.

urban – meanly that the person lives at urban area, was statistically significant upon *Instrumental Variable Probit*. Besides that, the sign (direction of the impact) was similar in both methods. However, its important note that the marginal effect of person income (in logarithmic) that has been found was different. For *IV Probit*, the marginal effect founded was lower than in *OLogit*, while the results founded for the variables relation to job entrance was almost the double. Moreover, the results obtained with *IV Probit* confirm that one obtained with *OLogit*.

About the regions, this paper tries to measure the difference between those ones using *dummies* variables, showed below. Southeast was selected as the reference region because of your economic and development importance for Brazil. Hence, the results showed in Table 1 make reference to this region. Besides that, the results pointed out that the regions more different of Southeast were North and Northeast, as expected.

The range of the effect of the variables upon the health status is measured from eh calculation of the marginal effects, presented in Table 1. It was found, for *OLogit*, that the rise in one year of age decreased by 0.5 percent point (*p.p.*) the probability for the individual to present very good health status. Giuffrida et al (2005) found, overall, a depreciation of health with age, but, indicating that the magnitude of that effect ranges with the gender, its being more perverse for the female.

Table 1 – Marginal Effects for the Health equation for the year of 2008

	Ordered Logit	*IV Probit*
Age	-0.005***	-0.006***
	(0.000)	(0.002)
Fx-Age 1: 4 to 9 years old	-0.046***	-0.089***
	(0.002)	(0.004)
Fx-Age 2: 10 to 14 years old	-0.021***	-0.043***
	(0.002)	(0.003)
Years of study	0.011***	0.014***
	(0.000)	(0.000)
Personal Income	0.0107***	0.006***
	(0.000)	(0.001)
Gender	0.035***	0.060***
	(0.001)	(0.002)
Non-white	-0.021**	-0.03***
	(0.001)	(0.002)
Urban	0.0001	0.006*
	(0.003)	(0.003)
North	-0.0634***	-0.084***
	(0.003)	(0.006)
Northeast	-0.0472***	-0.061***
	(0.003)	(0.004)
Midwest	-0.0279***	-0.039***
	(0.003)	(0.004)
South	-0.0253***	-0.034***
	(0.003)	(0.005)

Source: Results of research.

The division into age ranges in which the individuals began to work presented robust results, such an impact being both significant and distinct. Such a survey enables us to infer that the insertion in job market before the 10 years of age presents more severe effect on the health status than the entrance between the 10 and the 14 years of age. Using *OLogit*, for *Southeast*, the entrance to job market before the 10 years of age

decreases by 4.6 p.p. the chances for the individual, in 2008, to present a very good health status. But the entrance between 10 and 14 years of age decreases by 2.1 p.p. such chances. While, for *IV Probit*, the entrance to job market before the 10 years of age decreases by 8.9 p.p. and the entrance between 10 and 14 years of age decreases by 4.3 p.p. such chances. The region *dummies* variables confirm the analysis done before pointing out that in North and Northeast those impact are bigger than Southeast and South. As far as the early entrance in the job market is concerned, in general, the results confirmed those found by Nicolella et al. (2008) and Kassouf et al. (2001).

With relation to the educational level, it was found, as expected and pointed by the literature, a positive association with the health status. Therefore, a higher schooling level increases the chances for the individual to present a very good health status. The increase of one year of study increases raises by 1.1 p.p. such chances. Personal income impacted positively on the health status, indicating that, for the country as a whole, for instance, the increase of a unit in the income brings about a rise by 1.1 p.p. in the probability for the individual to present a very good health status.

Gender showed itself as a significant factor in determining the chances for one to have a health status considered very good, which possibly, can be explained by its correlation with the income level. Giuffrida et al (2005) point to the distinction in health status coming from gender, but, as previously stressed, estimated the models separately, which is not done in that work. Nicolella et al (2008) also corroborate such result – males present increased probability of having a better health status.

In fact, being of the male gender increases by 3.5 p.p. the probability for the individual to present a very good health status. For *IV Probit,* The marginal effect founded almost double. The ethnic issue, discussed from the variable *Non-white*, indicated that being not white color decreases the probability for the individual to present a very good health status. Nicolella et al (2008) presented a similar result – being a white increases the probability of having a good health status due to the closeness to hospitals, since they dwell in neighborhoods with more access to health. It was found that the fact of being a non with person decreases by 2.1 p.p. the changes for having health status considered very good.

Living in urban or rural a as a determinant of the health status indicates, for South region, that the fact for the individual to be situated in the urban area increases by 0.6 p.p. the chances of presenting very good health status. Nicolella et al. (2008) also did not find any significance in the distinction in the dichotomy urban/rural when the models with those dummies variables were estimated. On the other hand, Giuffrida et al (2009) argued that living in the urban area increases the access to medical care and, therefore, they expected and found a positive relationship with health status. Therefore, for the South region, that variable is only weakly significant, its result is in agreement with that of Giuffrida et al (2009).

The interpretation of the results discussed up to now and of the already existing literature points out that the implementation of a public policy, which delays the children's entrance to job market would be interesting. An initial strategy for minimization of the problem could occur via intensification in the inspection of the *Programa Bolsa Família* (Family Allowance Program) (so, an increase would occur in the probability for the individual to present a better health status coming from the delay in the entrance to job market as well as an increase in schooling level). Besides, the Child Labor Eradication Program (Programa de Erradicação do Trabalho Infantil (PETI)), also implemented by the federal government, which involves the state and local spheres and which seeks to decrease the participation of the children in job market from the income transfer, would also act as a mitigation mechanisms of child labor.

5. FINAL REMARKS

The objective of the work was that of surveying the negative impact of child labor upon the health status of the grown-up. The descriptive survey of the data founded in a successful manner on the interpretation of the results from the use of the econometric models. Both methodologies, *Ordered Logit* and *IV Probit*, presented similar econometric results, attesting the robustness of the former methodology.

In general, it follows that child labor decreases the probability for the individual to present a good health status when grown up, but that the age in which the child is inserted into job market is also important in the determining of health status. So, though one cannot fight in a definitive way child labor, for matters which goes beyond the scope of this work, a policy of delay of the entrance of the child to job market would be important.

Furthermore, the results pointed out that the greatest educational level as well as of *per capita income*, affect positively the probability of having a better health status. The regional results pointed out that homogeneous policies will not obtain homogeneous results. This took place because the early entrance to job market as well as other variables affect, in a distinct way, the health status of the individual.

The utilization of the year 2008 only, instead of recurring to the cohort technique, stands out itself as a limitation of the work. The subjective character of the variable which measures the health status of the individual can also be dealt as another limitation of work. For future research, the joint carrying out of that study with the estimate of the earnings equation relating the current health status with earnings level is suggested.

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